

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Declaration for Patent Application

[ ] Supplemental (37 C.F.R. §1.67)

**COPY**

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 2 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD FOR THE POINT OF USE PRODUCTION OF AMMONIA FROM WATER  
AND NITROGEN

the specification of which (check one)

[ ] is attached hereto.

[ ] was filed on [ ] as United States Application Number [ ].

[X] was filed on 22 July 2004 as PCT International Application No. PCT/US2004/023594 and assigned. United States Application No. 10/565,396.

[X] and was amended on January 20, 2006 by Preliminary Amendment.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

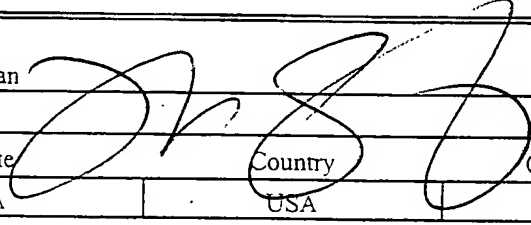
I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby expressly authorize the filing of an International Patent Application under the Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application.

I hereby claim foreign priority benefits under 35 U.S.C. 119 or 365 of any foreign application(s) for patent or inventor's certificate, or of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>			Priority Not Claimed	Certified Copy Filed?	
				YES	NO
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor				Jeffrey J. Spiegelman			
Inventor's Signature							
Residence: City		State		Country		Citizenship	
San Diego		CA		USA		USA	
Mailing Address (Business or Residential)							
Street or P.O. Box		5289 Meadows Del Mar					
City		State		ZIP		Country	
San Diego		CA		92130		USA	

Full name of second joint inventor, if any				Daniel Alvarez, Jr.			
Inventor's Signature							
Residence: City		State		Country		Citizenship	
San Diego		CA		USA		USA	
Mailing Address (Business or Residential)							
Street or P.O. Box		10908 Black Mountain Road, #1					
City		State		ZIP		Country	
San Diego		CA		92126		USA	

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Declaration for Patent Application

[ ] Supplemental (37 C.F.R. §1.67)

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METHOD FOR THE POINT OF USE PRODUCTION OF AMMONIA FROM WATERAND NITROGEN

the specification of which (check one)

[ ] is attached hereto.

[ ] was filed on [ ] as United States Application Number [ ].

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I hereby claim foreign priority benefits under 35 U.S.C. 119 or 365 of any foreign application(s) for patent or inventor's certificate, or of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>			Priority Not Claimed	Certified Copy Filed? YES NO	
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]
(Number) _____	(Country) _____	(Day/Month/Year filed) _____	[ ]	[ ]	[ ]

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole  
or first inventor Jeffrey J. Spiegelman

Inventor's Signature \_\_\_\_\_

Residence: City State Country Citizenship

San Diego	CA	USA	USA
-----------	----	-----	-----

Mailing Address (Business or Residential)

Street or P.O. Box 5289 Meadows Del Mar

City	State	ZIP	Country
San Diego	CA	92130	USA

Full name of second  
joint inventor, if any Daniel Alvarez, Jr.

Inventor's Signature Daniel Alvarez Jr

Residence: City State Country Citizenship

San Diego	CA	USA	USA
-----------	----	-----	-----

Mailing Address (Business or Residential)

Street or P.O. Box 10908 Black Mountain Road, #1

City	State	ZIP	Country
San Diego	CA	92126	USA

**COPY**

**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	10/565,396
Filing Date	22 July 2004 (PCT)
First Named Inventor	Jeffrey J. Spiegelman
Confirmation Number	Unknown
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	3194.1032-008

Title	METHOD FOR THE POINT OF USE PRODUCTION OF AMMONIA FROM WATER AND NITROGEN
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I hereby appoint

☒ Practitioners associated with Customer No. 021005☐ Practitioner(s) named below:

as my/our attorneys/agents to prosecute the application identified above, including any continuation or divisional applications thereof, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ Customer Number 021005

Hamilton, Brook, Smith &amp; Reynolds, P.C.

530 Virginia Road

P.O. Box 9133

Concord, Massachusetts 01742-9133

☐ Other

Please direct all telephone calls and facsimiles to:

Name Alice O. Carroll, Esq. Tel. No. 978-341-0036 Fax No. 978-341-0136

I am the:

☐ Applicant/Inventor.☒ Authorized representative of the Assignee, Entegris, Inc., of the entire interest. See 37 C.F.R. § 3.71. A Statement under 37 C.F.R. § 3.73(b) is enclosed.☐ Authorized representative of the Assignee, [ ], together with [ ], of the entire interest. A Statement under 37 C.F.R. § 3.73(b) is enclosed.*SIGNATURE of Applicant or Assignee of Record*

Signature

Name &amp; Title

Timothy J. King, Esq., Assistant General Counsel, Intellectual Property

Date

5/8/00

STATEMENT UNDER 37 CFR § 3.73(b)**COPY**Applicant/Patentee: Jeffrey J. Spiegelman and Daniel Alvarez, Jr.Application No./Patent No.: 10/565,396Filed/Issue Date: 22 July 2004 (PCT)Entitled: METHOD FOR THE POINT OF USE PRODUCTION OF AMMONIA FROM WATER AND NITROGENEntegris, Inc.

(Name of Assignee)

a

Corporation

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is

- A. ☒ the assignee of the entire right, title and interest in the patent application/patent identified above; or
- B. ☐ an assignee together with ☐ of the entire right, title and interest in the patent application/patent identified above.

The right, title and interest of the above-named assignee in the patent application/patent identified above is established by virtue of:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application/patent identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.

- ☐ Additional documents in the chain of title are listed on a supplemental sheet.

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature: \_\_\_\_\_

Name: Timothy J. KingTitle: Assistant General Counsel, Intellectual PropertyDate: 5/8/06

ASSIGNMENT**COPY**<sup>Joint</sup>

WHEREAS, we, **Jeffrey J. Spiegelman** and **Daniel Alvarez, Jr.**, have invented a certain improvement in **METHOD FOR THE POINT OF USE PRODUCTION OF AMMONIA FROM WATER AND NITROGEN** described in an application for Patent,

- ☐ the specification of which is about to be filed in the United States Patent Office (*use for utility (37 CFR § 1.53(b)) and design filings only*);
- ☐ is about to be filed in the United States Patent Office as a Provisional Application;
- ☐ the specification of which is United States Application No. [       ], filed [       ];
- ☒ the specification of which is a Patent Cooperation Treaty Application, International Application No. **PCT/US2004/023594**, filed **22 July 2004**, which designates the United States of America and assigned United States Application No. **10/565,396**;
- ☐ which was patented under United States Patent No. [       ].

WHEREAS, **Entegris, Inc.** (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the **State of Delaware**, and having a usual place of business at **3500 Lyman Boulevard, Chaska, MN 55318** desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; I hereby expressly authorize the filing of an International Patent Application under the Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor's Signature: \_\_\_\_\_

**Jeffrey J. Spiegelman**

State/Commonwealth \_\_\_\_\_

of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2006, before me, the undersigned notary public, personally appeared **Jeffrey J. Spiegelman**,

☐ personally known to me, or

☐ proved to me through satisfactory evidence of identification, which was \_\_\_\_\_

to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.

(SEAL)

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
(print name)

My Commission expires \_\_\_\_/\_\_\_\_/\_\_\_\_



Inventor's Signature: \_\_\_\_\_

Daniel Alvarez, Jr.

State/Commonwealth \_\_\_\_\_

of CALIFORNIA

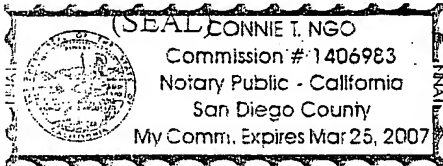
County of SAN DIEGO

On this 9<sup>th</sup> day of MARCH, 2006, before me, the undersigned notary public, personally appeared **Daniel Alvarez, Jr.**,

☐ personally known to me, or

☒ proved to me through satisfactory evidence of identification, which was  
CA DRIVER LICENSE

to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.



Connie T. Ngo

Notary Public

CONNIE T. NGO

(print name)

My Commission expires 03/25/07

ASSIGNMENT**COPY**Joint

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- ☐ the specification of which is about to be filed in the United States Patent Office (*use for utility (37 CFR § 1.53(b)) and design filings only*);
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- ☐ the specification of which is United States Application No. [       ], filed [       ];
- ☒ the specification of which is a Patent Cooperation Treaty Application, International Application No. **PCT/US2004/023594**, filed **22 July 2004**, which designates the United States of America and assigned United States Application No. **10/565,396**;
- ☐ which was patented under United States Patent No. [       ].

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NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; I hereby expressly authorize the filing of an International Patent Application under the Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

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Inventor's Signature: \_\_\_\_\_

Jeffrey J. Spiegelman

State/Commonwealth

of California

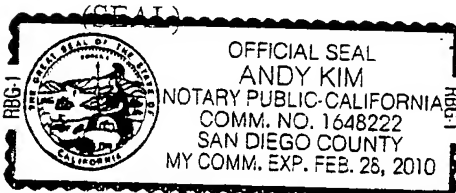
County of San Diego

On this 3 day of April, 2006, before me, the undersigned notary public, personally appeared Jeffrey J. Spiegelman,

☐ personally known to me, or

☒ proved to me through satisfactory evidence of identification, which was

to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.



Andy Kim Notary Public

Andy Kim (print name)

My Commission expires 2 / 28 / 2010

Inventor's Signature: \_\_\_\_\_  
Daniel Alvarez, Jr.

State/Commonwealth

of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2006, before me, the undersigned notary public, personally appeared **Daniel Alvarez, Jr.**,

☐ personally known to me, or

☐ proved to me through satisfactory evidence of identification, which was \_\_\_\_\_

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(SEAL)

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
(print name)

My Commission expires \_\_\_\_/\_\_\_\_/\_\_\_\_